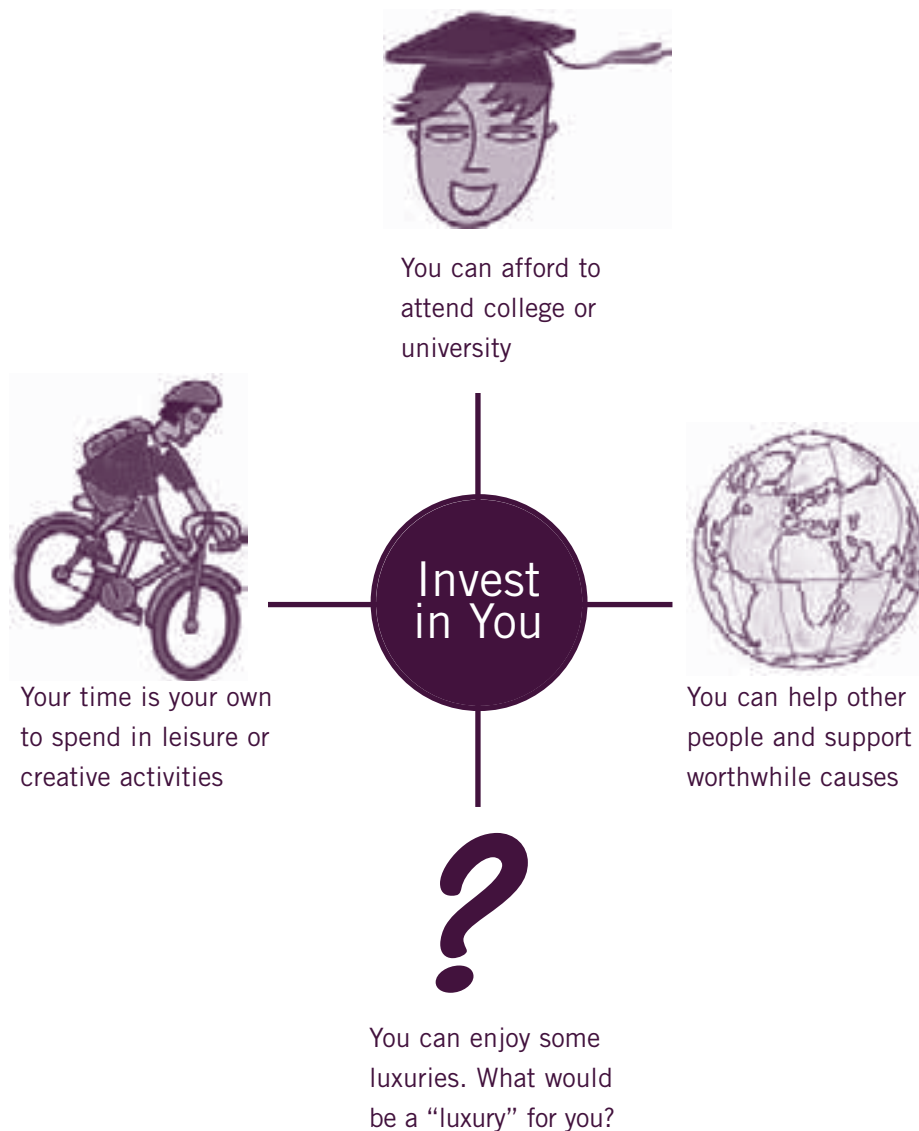
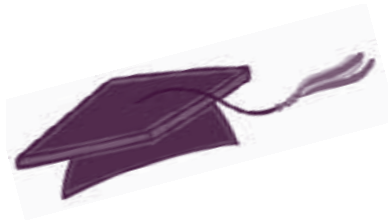


Introducing Personal Finance

How well you take care of the money you make will have a big impact on your life. Making choices about what you do with your money can be challenging, but understanding basic financial terms and concepts will help develop your ability to take care of and protect your money and future. Planning what you do with your money is called *money management*.

A good understanding of money and what to do with it can help you achieve goals you set for your future. In this sense, you can think of learning money management skills as an *investment* (something that is useful and will eventually pay off) in yourself.





What is Wealth?

To achieve the goals you set for your future, you need to build wealth. Building wealth requires having good information, planning and making good choices. You need to learn how to earn money, budget to save, save and invest and control debt. Wealth is made up of assets, possessions that generally increase in value or provide a return. In other words, your assets earn money or rise in value. They are said to *appreciate*. Some examples of assets that may be wealth-creating are:

- Houses or real estate
- Savings accounts
- Retirement plans
- Stocks and bonds

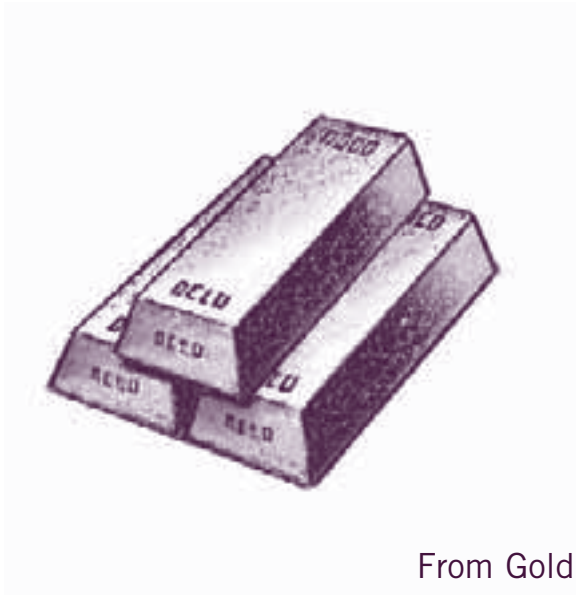
Some possessions do not increase in value over time. For example, cars, stereo equipment and clothing go down in value or *depreciate*.

Money you owe, also called *debt*, is a liability. Examples of liabilities are:

- Mortgage on a house
- Car loans
- Student loans

When you subtract your liabilities from your assets, you know your *net worth*. Your net worth is your wealth.

$$\text{ASSETS} - \text{LIABILITIES} = \text{WEALTH}$$



From Gold Bars to Debit Cards

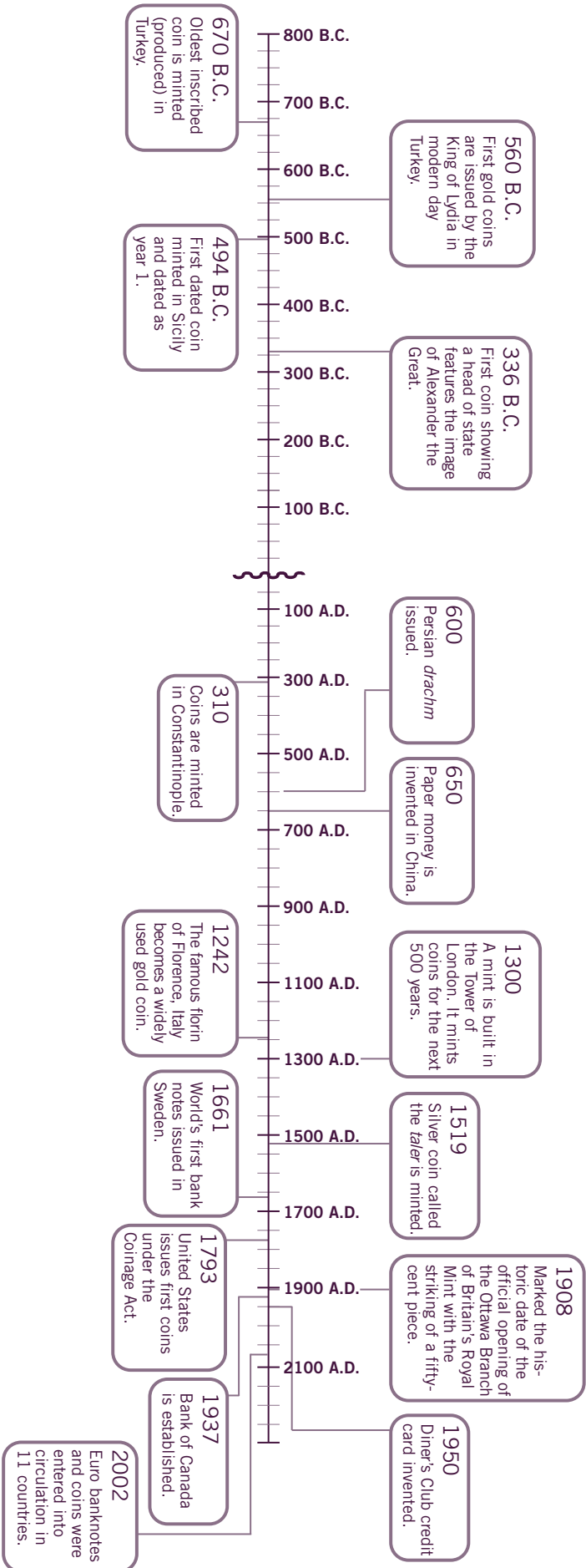
The Evolution of Money

Before money was invented, people would obtain goods they wanted by trading goods they already owned. Indigenous peoples in North America traded furs for buffalo meat. In the Middle East, people exchanged camels for gold jewellery and indigenous peoples in Africa traded elephant tusks for yams. This system of trading goods is called *bartering*. Bartering is still in use today. For example, an Italian car company that built a factory for Russia was repaid in cars.

In spite of its advantages, bartering creates some difficulties. Can you image what they are? To avoid these problems, people used materials such as gold that could be weighed and divided into small portions for exchanging items of lesser value and large chunks for items of greater value. These metals were eventually cut into disks called *coins* and stamped with the insignia of the government that made them. The time line on the next page shows some of the milestones in the evolution of money to its modern forms.

The Evolution of Money

Note: When B.C. is not written after a date, it is assumed to be A.D.








Discuss

Study the coin information shown below. For each of the four oldest coins, mark the year it was issued on the time line provided using an arrow. Under each arrow record the year.

- 1 How many years after the creation of the first inscribed coin was the coin featuring Alexander the Great issued?
- 2 How many years after the first dated coin did the Egyptians produce the coin with the image of an eagle?
- 3 Jason saw an old coin engraved with the date 252 B.C. How did he know it was not a genuine coin?

Coins that Span Almost 3 000 Years

		
Photo courtesy of Edgar L. Owen, Ltd. http://www.edgarlowen.com	Photo courtesy of Dr. Tom Buggey, Cordova, TN	Photo courtesy of Robert Kokotailo, http://www.calgarycoin.com
The first coins were used in Turkey in 750 B.C. They were pellets of electrum, an alloy of gold and silver.	The hole in the centre of this coin allows it to be worn on a string around the neck. Coins of this type were first issued in China around 600 B.C.	This coin was issued around 480 B.C. and features a small figure of Victory flying above a charioteer.

	
	Coin design courtesy of the Royal Canadian Mint/ Image de la pièce, courtoisie de la Monnaie royale canadienne.
Coins like these were issued in Egypt around 200 B.C. Like many modern coins, it features an eagle.	The Canadian one dollar coin was first issued in 1987 as a cost-saving measure, to replace one dollar bank notes.

Discuss

Study the time line provided. Locate the dates that are marked B.C. What does this mean? How many hash marks are there between each 100 year interval on the B.C. part of the time line? What time interval separates two consecutive hash marks? Explain.

Study the time line provided. Observe the dates marked A.D. What does this mean?

How many hash marks are there between each 100 year interval on the A.D. part of the time line? What time interval separates two consecutive hash marks? Explain.

Mark the date on your time line to show when the Canadian one dollar coin was issued.

- 4 How many years after the issue of the Egyptian coin was the Persian coin issued?
- 5 Use your time line to help you calculate the time between each pair of dates.
 a) 336 B.C. and 310 b) 494 B.C. and 1519 c) 670 B.C. and 1937
- 6 A time line can be changed to a number line by writing dates B.C. as negative numbers. Thus 336 B.C. can be written as -336 , and the time between 336 B.C. and 310 is written as $310 - 336$ B.C. or $310 - (-336)$. Write each of the phrases in Exercise 4 as a difference of integers. Then write the answer beside each. State a rule for subtracting a negative integer from a positive integer. Use your number line to check your rule.
- 7 How many years after the establishment of the Bank of Canada was the Euro made an official currency?

Earning Money

The first step in building your financial future is earning money. The earlier you start, the faster your wealth will accumulate. Let's explore three different ways to be paid when you are an employee.

		
<p>Sarah runs the concession stand at a golf course. She is paid \$8 per hour. The amount she earns depends only on the number of hours worked. She is said to earn an <i>hourly wage</i>.</p>	<p>Jason has a summer job as a life-guard. He's paid \$220 per week. Since this is a fixed amount he is said to earn a weekly <i>salary</i>.</p>	<p>Kevin receives 80¢ for each basket of strawberries he picks. The amount he earns depends only on the number of baskets picked. A job that pays according to the number of items (or pieces) produced is called <i>piecework</i>. (In sales jobs, you may get a portion of the price of the product you sell. This is called <i>commission</i>.)</p>

The money you earn is also known as remuneration. Usually you receive your remuneration or the money you earn according to a schedule. This schedule could be weekly, bi-weekly (every two weeks), semi-monthly or monthly.

Discuss

The number of hours someone works in one week is referred to as their *work week*. Generally provinces determine a maximum number of hours people can work in a week.

- What does *full time* mean?
- What is the number of hours that make up a full time work week in your province?
- If you had a choice, how many times a month would you like to receive the money you earn? Why?



Using the information given on the previous page, complete these exercises. Show your work.

- 1 How much will Jason earn as a lifeguard during the period from July 2 to September 2?
- 2
 - a) How many hours will Sarah have to work at the concession booth to earn \$1 000?
 - b) Jason works 30 hours per week as a lifeguard. Does he earn more or less per hour than Sarah?
- 3 Sarah is paid \$8 per hour for the first 40 hours worked in a single week and \$12 per hour for each additional hour (*overtime*) in that week.
 - a) Sarah's *overtime* may be called *time and a half*. Explain why.
 - b) How much will Sarah earn in a week in which she works 50 hours?
 - c) What is Sarah's average rate per hour when she works a 50-hour week?
 - d) How many hours in a week would Sarah have to work to average \$10 per hour for the entire week?
- 4
 - a) How much will Kevin receive if he picks 60 baskets of strawberries?
 - b) How many baskets of strawberries per week must Kevin pick to earn the same amount as Jason? How many baskets per day?
 - c) How many baskets of strawberries per hour must Kevin pick to earn the same amount as Sarah?
 - d) How long should it take Kevin to pick a basket of strawberries if he wants to earn the same amount per hour as Sarah?
- 5
 - a) On graph paper, construct a line graph to show how much money Sarah earns for every number of hours between 35 and 45 hours in a single week. (Assume that Sarah is paid time and a half for hours over 40 but is not paid for fractions of an hour.)
 - b) Label the axes on your graph. Use your graph to determine how much Sarah earns if she works:
 - i) 43 hours in a week; ii) 50 hours in a week.



Investigation: Mass Mailing for Music Madness

Every summer the Music Madness Corporation mails hundreds of thousands of brochures world wide. They employ students in the summer to fold brochures, stuff them in envelopes, and stick address labels on the envelopes. Music Madness offers a choice of three different methods of payment.

<p>The student will work from 9:00 a.m. to 4:30 p.m. from Monday through Friday with a half-hour break for lunch.</p> <p>In return, the student will receive a payment of \$300 per week.</p>	<p>The student will work during hours of their choosing and will be paid \$7 per hour for the first 40 hours in any week. Overtime at \$10.50/hour will be paid for each hour after that in a single week.</p>	<p>The student will work during hours of their choosing and will be paid 8¢ for each envelope that is stuffed and labelled.</p>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------

- Which of the options above offers a wage? Which option offers a salary? Which option would be described as piece work?
- Explain what is meant by *overtime*. Why do you suppose a higher wage is paid for work in excess of 40 hours per week? How much overtime pay is the company offering?
- Calculate how much each of the students earned. Show your work.
 - Angela worked for 3 weeks under option 1.
 - Tony worked under option 2 for 3 weeks. He worked 36 hours the first week, 47 hours the second week, and 50 hours the third week.
 - Ashley chose option 3. She stuffed and labelled a total of 10 000 envelopes over a period of three weeks.
- Would Ashley (see Exercise 3 c) have made more money if she had chosen option 1? Explain.
- Andy can stuff and label about 120 envelopes per hour.
 - How many hours would he have to work under Option 3 to earn more than under Option 1?
 - What option is better for Andy, Option 2 or Option 3? Explain.



Choosing a Payment Option

Use ten pieces of normal size writing paper, ten business-size envelopes and some sticky tape. Have your partner record how long it takes you to fold all ten sheets of paper, stuff them into the ten envelopes and place a piece of tape (representing the address label) on the envelope. Use this information to estimate how long it would take you to fold a brochure, stuff it into an envelope and affix a label to it. Calculate how many envelopes per hour you could fill and label.

Reverse roles and repeat the procedure above to help your partner estimate the number of envelopes they could fill and label in a hour.

- 6** Using graph paper,
 - a)** construct a line graph showing how many envelopes you could fill and label for each number of hours between 0 and 50.
 - b)** construct a line graph showing how much money you would earn under Option 3 for each number of hours between 0 and 50.
 - c)** on your graph in part b), construct another line graph showing how much money you would earn under Option 2 for each number of hours between 0 and 50.
- 7** Use the information from your graphs to write a report to indicate which option you would choose if you were employed by the Music Madness Corporation. Give reasons for your choice.
Indicate what option is your least favourite. Explain.
- 8** Describe advantages and disadvantages for a student working under each method of payment: salary, wages, and piecework.



Internet Investigation

What's the Minimum Hourly Wage in Your Province?

Minimum wage is the lowest hourly wage that you can legally be paid.

- 1 Visit Canada Online on at: <http://canadaonline.about.com>
- 2 Use the search tool on the Web site to find the minimum hourly wage in your province. Does the Music Madness Corporation pay more than the minimum hourly wage?
- 3 How many envelopes per hour would a student have to stuff and label to earn the minimum hourly wage?

Name _____



What's the Minimum Hourly Wage in Your Province?

Worksheet

Pre-Internet Activity

1 The province I am investigating is _____

2 Minimum wage means _____

Internet Activity

Visit Web site <http://canadaonline.about.com>

The minimum hourly wage in my province is \$ _____ . _____

Post-Internet Activity

The number of envelopes I would have to stuff and label to match the minimum hourly wage in my province is

_____.

Name _____



Country Comparisons

Worksheet for Extension 1: Country Comparisons

Pre-Internet Activity

The Web Search Engine I shall use to find information on a country and its minimum wage is

Internet Activity

The country I have chosen is _____ with a minimum wage of \$ _____. _____

Post-Internet Activity

- 1 To match this minimum wage: Jason, working 30 hours a week, would have to earn a weekly salary of \$ _____. _____

Sarah would have to be paid \$ _____. _____ per hour.

Kevin would have to pick _____ baskets of strawberries per hour.

Name _____

Job Search

Worksheet for Extension 2: Job Search

Pre-Internet Activity

The Internet Search Engine that I will use to find Canadian Web sites that help people find jobs on-line is

Internet Activity

1 These are 3 sites I have found:

a) _____ b) _____

c) _____

2 Five types of jobs **Web site 1** advertises are:

a) _____ b) _____

c) _____ d) _____

e) _____

Five types of jobs **Web site 2** advertises are:

a) _____ b) _____

c) _____ d) _____

e) _____

Five types of jobs **Web site 3** advertises are:


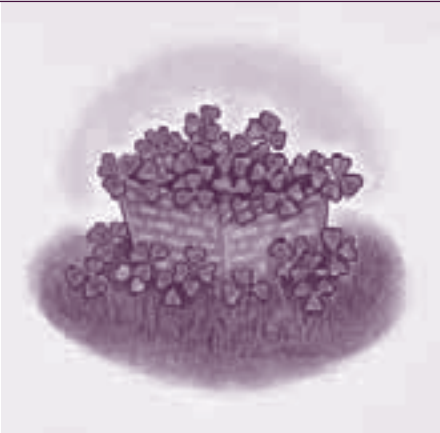

a) _____ b) _____

c) _____ d) _____

e) _____

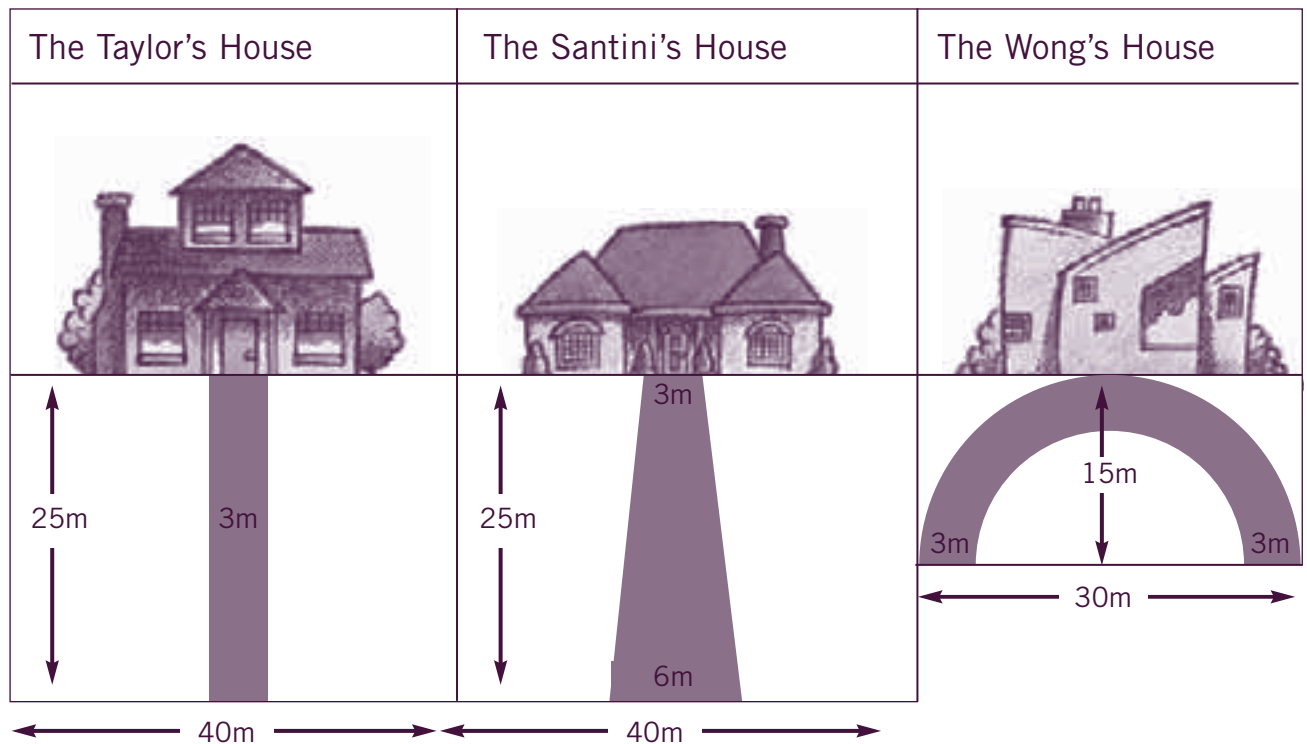
Contracting Your Services

In the previous activity, you learned three different ways to be paid (earn income) when you work for others as an employee. What are they? It is also possible to work for others without becoming an employee. This is called being *self-employed*. For example:

		
You might offer your services as a babysitter to several different neighbours and charge your customers by the hour.	Alternatively, you might agree to cut lawns for a fee that is determined by the size of the lawn.	Or you might agree to shovel snow based on the area of the sidewalk and the depth of the snow.

An agreement to perform a service for a fee is called a *contract*. A contract can be a verbal or a written agreement. When significant amounts of money are involved, the contract is usually in writing and is signed by both parties to show that they agree to the terms. Why do you think the written contract is preferable in such cases?

- 1 Maria babysits for three different neighbours. She charges \$4 per hour for each hour before midnight and \$6 per hour for each hour after midnight. Last night she babysat the Johnsons' daughter from 7:00 p.m. to 1:15 a.m. Maria charged the Johnsons \$27.50. Show how she arrived at this amount.
- 2 Angela has a successful lawn mowing business. She cuts her neighbours' lawns once a week during the summer. To determine how much to charge, she records the dimensions of the lot and the area of the house from the lot plan. Then she charges \$16.50 for every 1 000 m^2 of lawn. About how much should Angela charge each of these customers if all the area except the driveway is lawn?



- 3 Angela's neighbors have contracted with Harvinder to shovel their driveways after any snowfall more than 6cm deep. He charges \$2.00 for each cubic metre of snow that he removes from the driveway. How much should Harvinder charge the three neighbours above to clear 10cm of snow from their walks?

Internet Investigation

What's the Job Market for Babysitters in Your Neighbourhood?

- 1 Record your home postal code.
- 2 Visit the Statistics Canada web site at: www.statcan.ca/english/kits/baby2.htm
- 3 Follow the instructions on the worksheet to obtain the table showing the number of people of various ages in your neighbourhood.
- 4 Complete the student worksheet to analyze the job market for babysitters in your neighbourhood.



What's the Job Market for Babysitters in Your Neighbourhood?

Pre-Internet Activity

My postal code is _____

Internet Activity

- Visit Web site www.statcan.ca/english/kits/baby2.htm
- Follow the instructions on that worksheet to obtain the table showing the number of people of various ages in your neighbourhood.
- Complete the student worksheet on that site to analyze the job market for babysitters in your neighbourhood.



Post-Internet Activity

- 1 Complete this sentence:

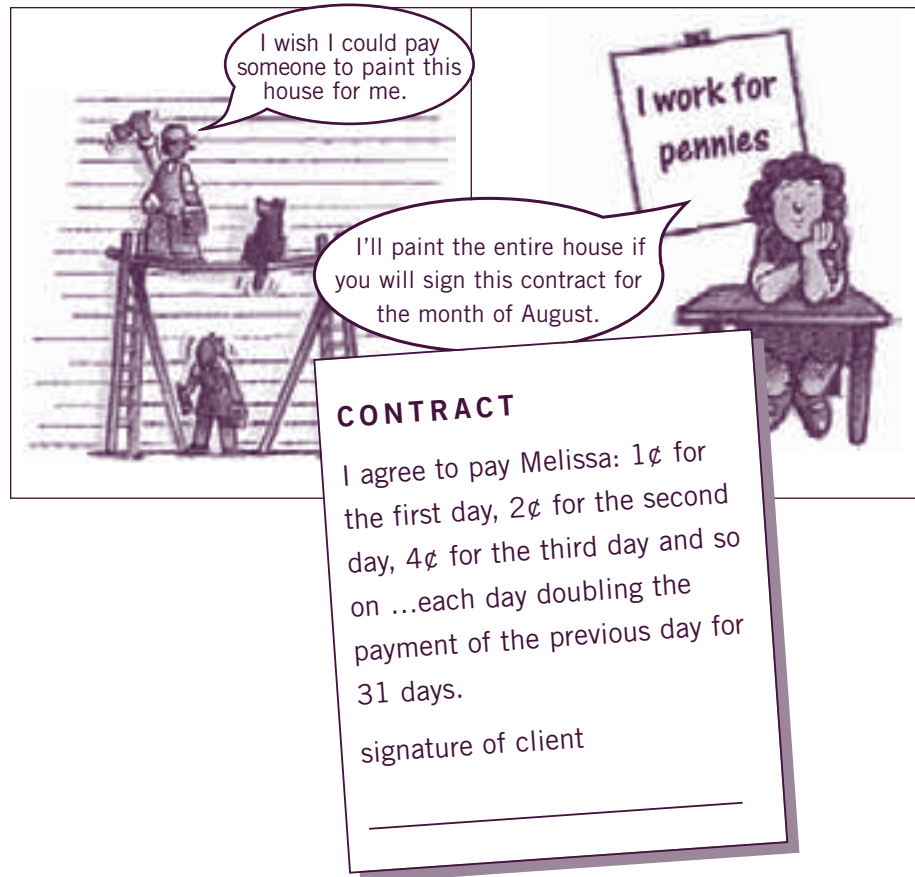
I think the job market for babysitters in my neighbourhood is **good** / **poor** (circle one) because:

- 2 How much money could I earn in a month? \$ _____ . _____

- 3 The factors I considered in calculating this number were:



Investigation: Melissa Contracts to Work for Pennies



- 1 Most painters would charge thousands of dollars to paint a house. Do you think this is a very good contract for Melissa? Explain why or why not.

- 2 Why does Melissa want the client to sign the contract for the entire month of August?

- 3 Estimate how much you think Melissa might earn if the client signs the contract to the end of August.

Referring to the terms in Melissa's contract, use your calculator to complete this table showing how much Melissa makes each day during the first two weeks of her contract.

Day	Payment	Total Pay to Date
1	\$0.01	\$0.01
2	\$0.02	\$0.03
3	\$0.04	\$0.07
4	\$0.08	\$0.15
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		

- 4 Study the numbers in your table and explain how the numbers joined by the arrows are related.
- 5 Study your answer in 4. Then explain how to determine each number in column 3 by looking at only one number in column 2.
- 6 Make a table showing how much money Melissa would receive on each of the days from the 15th day to the 31st day.
- 7 Use the pattern you discovered in Exercise 5 to calculate the total amount of money that Melissa would make in the 31 days of August.

Use the pattern you discovered above to find the sum of all the twenty numbers below without adding.

$$2 + 2^2 + 2^3 + \dots + 2^{20}$$

Exploring Cheques

A Canadian ten-dollar bill is a piece of paper you can exchange for \$10 worth of goods or services. A *cheque* also is a piece of paper that you can give to someone in exchange for goods or services. The amount you write on the cheque is the amount that the recipient is to receive when the cheque is cashed at a financial institution.

About Cheques

Before you can write a cheque, you must open an account at a financial institution such as a bank, trust company or credit union and deposit money in that account. You may then write cheques for any amounts as long as their total does not exceed the amount of money in your account. Cheques are usually valid for 6 months, after that period of time they are not valid and are said to be *stale dated*.

Myra Bolton 123 Exchequer Avenue Chesterfield, Ontario XOX OXO		200-91
DATE		June 23, 2001
PAY TO THE ORDER OF	The Canadian Heart Federation	\$ 25.00
Twenty-five dollars and		xx/100 DOLLARS
Bank of Moosejaw 56 Lotsacash Drive Sofa, Ontario W6A 2Z0		Myra Bolton
Donation		
1113-32 132 132		

- 1
 - a) To whom was the cheque written?
 - b) Where does it indicate to whom the cheque is written?
- 2
 - a) On what day was the cheque written?
 - b) Where is the date on which the cheque was written?
- 3 How much is donated to the Canadian Heart Federation?
- 4 Explain why you think the amount of the cheque is written in numerals and in words?
- 5
 - a) Who wrote the cheque?
 - b) Where does it indicate the name of the issuer of the cheque?
 - c) Until what date is the cheque valid?
- 6 Why does the name of the issuer of the cheque appear in printed and written form?
- 7 In what financial institution does Myra have her account?
- 8 What is Myra's account number?

200-91	
PAY TO THE ORDER OF _____	DATE _____
_____	\$ _____
DOLLARS	
SAMPLE	
_____	_____
1113-32 132 132	

Fill out this cheque by entering the following:

- today's date,
- your name and address in block letters,
- the name of the financial institution where you choose to open your account,
- a person or place to whom you choose to issue a cheque,
- the amount you wish to give them in numerals and in words,
- sign the cheque. Why do you suppose a signature is necessary?

To *cash* your cheque, the person to whom it is issued must sign the back of the cheque to prove that they are the person to whom the cheque is issued. This is called *endorsing* the cheque. Why do you suppose cheque endorsement is necessary?

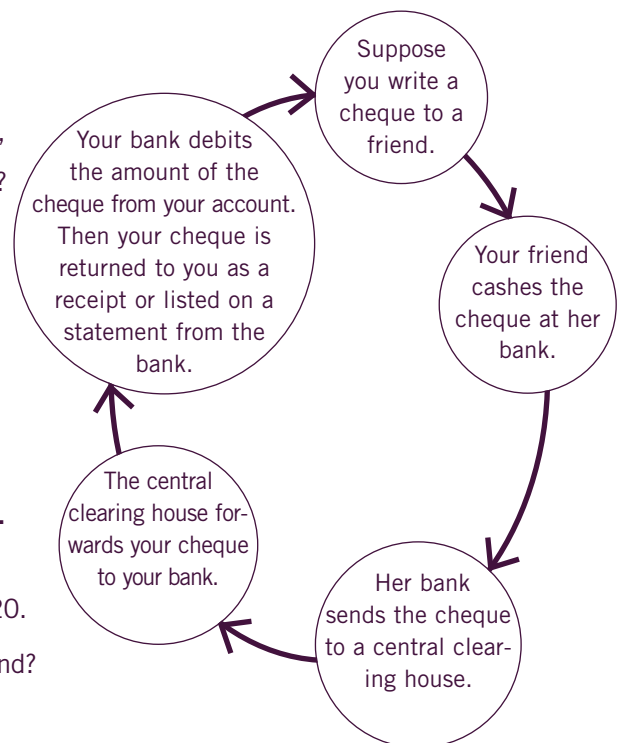
The flow chart on the right shows how the cheque you write travels until it is returned to you a few weeks later.

Use the flow chart to help you answer the following questions.

Suppose you write a cheque for \$20 to a friend:

- 1 Explain how your friend cashes the cheque and receives \$20.
- 2 From where does her bank recover the \$20 paid to your friend?
- 3 To whom does your bank pay the \$20?
- 4 From where does your bank get the \$20?
- 5 Draw a flow chart to show what you think would happen to your cheque if you did not have enough money in your account.

How Do Cheques Work?





Investigation: Exploring Debit & Credit Cards



Instead of writing a cheque you can use a *debit* card. Many merchants including department stores and supermarkets accept debit cards for purchases. Your financial institution issues

a plastic card with your name and an account number. When you make a purchase, the cashier passes your card through an electronic device. It checks that you have enough money in your account to cover the purchase. If so, the amount is deducted from your account automatically. An example of how debit cards work is shown to the right.

Another way to pay for purchases is to use a *credit* card. This card displays your name, account number, and the sponsoring financial institution. Your financial institution pays the purchase price (up to a pre-set limit) on your behalf. This loan from the financial institution is interest-free as long as you repay the loan by the due date. *Interest* is a fee, calculated as a percent of the outstanding balance that is charged after that. The flow chart to the right shows how credit cards work.

Internet Investigation

The Financial Consumer Agency of Canada has lots of useful information about debit cards. Visit the Web site at www.fcac-acfc.gc.ca

1 How to protect your debit card.

Find and review information on protecting yourself against debit card fraud.

2 What does it cost to withdraw money from an Automated Banking Machine (ABM)?

Find and review information on what it costs to withdraw money from an ABM.

How do Debit Cards Work?

You present your debit card to the cashier



The merchant scans your card into a device that electronically checks if you have money in your account



The money is transferred electronically from your account to the merchant's account

How do Credit Cards Work?



You present your credit card to the cashier



The merchant gets electronic authorization for the purchase and imprints your card on a purchase statement.



You sign the statement of purchase and receive a copy as a receipt.



Your financial institution sends you an invoice or statement listing your purchases, the amount owed, and the due date.



You pay your financial institution.

First National Bank of Ontario

Credit Card Statement

Name: Kevin Leframboise

Statement Date: June 29, 2001

Account Number: 6230 0100 0156 8219

This Month's Payment	\$10.00
+ Past Due Amount	0.00
= Minimum Payment	\$10.00
Payment Due Date	July 20/01

Last Statement	Previous Balance	Total Purchases	Total Cash Advances	Interest Charged	Total Payments	Statement Balance
May 29	\$43.52	\$75.14	0.00	0.00	\$43.52	\$75.14

Date of Purchase	Description of Purchase	Amount
May 30	Tennis & Golf Discount Store Toronto	\$28.69
June 14	Colin's Old English Fish & Chips Store Barrie	\$21.23
June 27	Computer Games Inc. Hamilton	\$25.22

Interest Rate Information

1.54% per year

Credit Limit

\$1 000

- 1 What was the period during which the purchases were made? How many days are in this *payment period*?
- 2 What was the total amount of the purchases made during the statement period?
- 3 What amount must be paid to avoid interest charges? By what date is this payment due?
- 4 What is the minimum amount that must be paid by the due date?
- 5 What is the monthly interest rate charged on overdue balances? Explain how this interest rate is used to calculate the interest on a balance of \$100.
- 6 Complete this table to show how much interest is payable on each of these overdue balances after a month.

Overdue Balance	\$50	\$100	\$150	\$200	\$1 000
Interest For One Month					

Explain how you could determine the exact interest on \$350 using the table.

- 7 Calculate the interest that would be charged next month on the statement above if only the minimum payment were made.
- 8 Use your table above to construct a line graph that shows one month's interest on each balance from 0 to \$1 000 if interest is charged at the credit card rate.
- 9 Use your graph to estimate the monthly interest on these amounts.
 - a) \$175
 - b) \$290
 - c) \$350
 - d) \$860
 - e) \$921
- 10 Describe the advantages and/or disadvantages of credit and debit cards.

Financial Post

Saturday, May 8, 2002

Being Responsible BY PAUL VIEIRA

Kids learn a lot from adults. In too many cases, that includes dangerous practices like carrying credit card debt and emphasizing consumption over savings.

Being Responsible

An article that appeared in a recent issue of a national newspaper indicated that many people across North America are drowning in credit card debt. It also observed that irresponsible use of credit sets a bad example for children on how to manage and save money. The article also indicated that the percentage of income that people are saving is the lowest in more than a half century. Alan Greenspan, chair of the U.S. Federal Reserve, stressed the need to improve the basic financial education in schools.

Zach Landau, age 13, appeared with his father at a news conference to discuss the survey featured in the article. Zach, who is a successful saver, admitted, "You don't really get the immediate gratification you like." Regardless, he agrees that the results are worth the sacrifice.

Discuss

- 1 What do you think are some of the "dangerous practices" in money management that people easily fall into?
- 2 What are the effects of these "dangerous practices" over a long period of time?
- 3 What do you think people should do in their management of money to set a good example for children? Explain how this will help children.
- 4
 - a) What did Zach Landau mean when he said, "You don't really get the immediate gratification you would like?"
 - b) Why might people not want to follow a responsible approach to managing money? What would you say to a fellow student to encourage them to save money?

Saving and Budgeting

Now that you've made money, what do you do with it to build wealth? The first step is to create a budget, or a plan for saving and spending. You need to set your goals and analyze your spending before you can save money.



Setting Financial Goals

The key to being successful at saving is to plan carefully. Be realistic, establish time frames, devise a plan, and be flexible as your goals may change. Some of your goals may be short-term, or something you can accomplish fairly quickly. Others may be classified as long-term goals that will take more time to achieve. For example, a short-term goal may be to save \$3 000 in three years for a new computer system, a long-term goal may be to save \$10 000 for college or university.

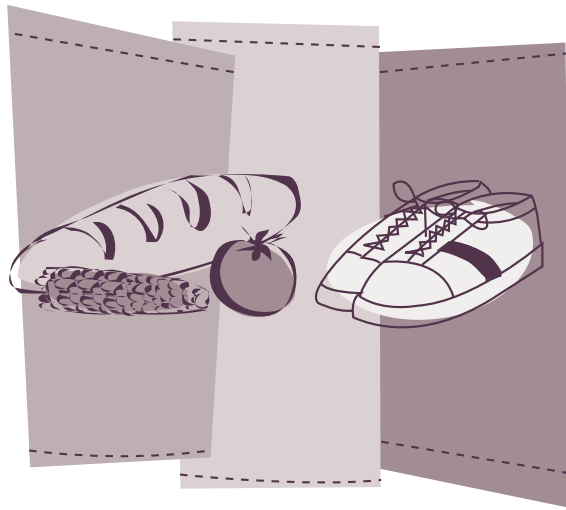
In the space provided below, write down your short-term and long-term goals and when you would like to achieve them. Once you know your goals, you can begin to save to achieve those goals. Tips to help you be systematic about saving are save every month, and have your savings automatically deducted from your paycheck or bank account.

My short-term goals are:

- 1 _____
- 2 _____
- 3 _____

My long-term goals are:

- 1 _____
- 2 _____
- 3 _____



Distinguishing between Needs and Wants

Your *needs* are the things you must buy for your daily living. These things might include school supplies, clothes, gym shoes or bus fare. Your *wants* are things that you may wish to have but are not necessary to your daily living. These might include CDs, movie tickets, magazines, or fast food. We try to spend money on both our needs and our wants.

One way to avoid either spending only on needs or only on wants is to classify your expenditures as needs or wants. Then set aside enough of your earnings to buy your needs. Put as much aside as possible for savings. Leave a smaller amount for your wants. How much you set aside for savings will depend upon how eager you are to build wealth. The idea of setting aside an amount for your savings before you spend on your wants is called the *pay-yourself-first principle*.

Many people spend to satisfy their wants and find that there is nothing left over for savings. The pay-yourself-first principle avoids this problem and puts you on the road to rapid wealth-building.

Analysing My Expenditures

- 1 Make a table like the one shown below. List your expenditures by category. Beside each category write the average amount you spend on that item each month.
- 2 Calculate the total expenditures.
- 3 Calculate each expenditure as a percent of your total expenditures.

Expenditure	Need or Want	Average Monthly Amount	Percent of Total Expenditure
School supplies			
Bus fare			
Clothes			
Fast food			
Entertainment e.g. movies			
Merchandise e.g. jewelry, CDs			
Other expenditures			
Total			

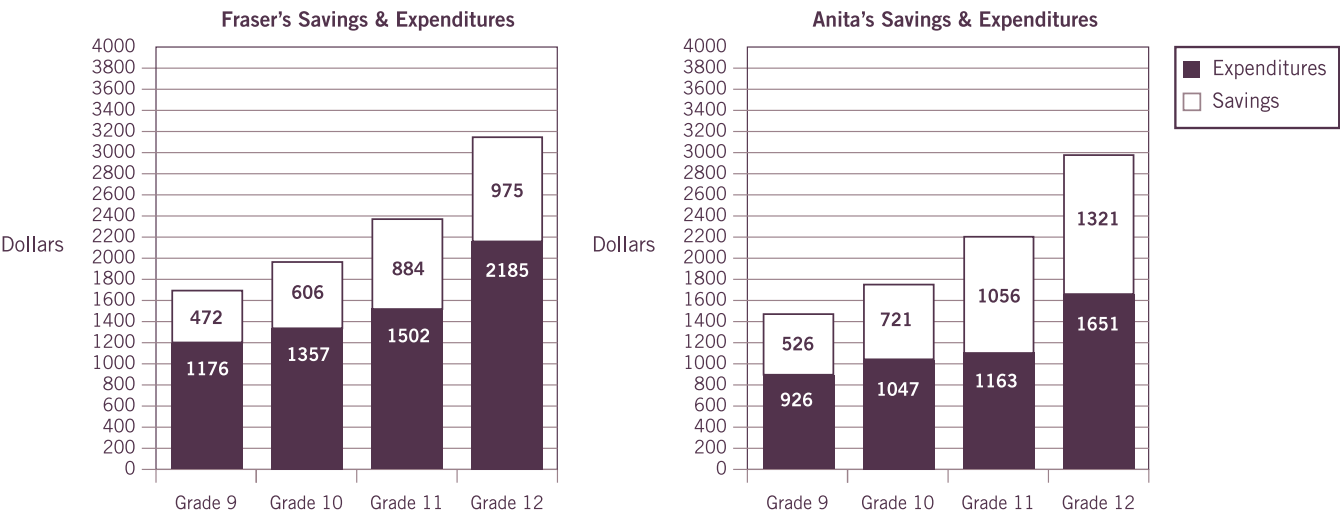
- 4 Enter your percentages into a spreadsheet. Construct and print a circle graph showing each of your six major expenditures as a percent of the total.
- 5 Mark each expenditure on your circle graph as *n* or *w* depending on whether it is a need or a want.
 - a) What percent of your expenditures are needs?
 - b) What percent are wants?
- 6 Describe what your circle graph indicates about your expenditures.



Saving Money

Building wealth is like filling a sink with water – you turn on the tap and plug the sink. The stronger the stream of water from the tap, the faster the sink fills. However, if the plug leaks, the water drains out. The sink fills fastest when the tap is on full and the drain is plugged or has a slow leak. It’s the same with wealth-building. You accumulate savings most quickly when you maximize your earnings and limit your spending (*expenditures*).

Fraser and Anita began saving for their college education when they were in Grade 9. The graphs below show Fraser’s and Anita’s expenditures and savings during each of their four years of high school.



1 The relationship among savings, earnings, and expenditures is expressed in the following equation.

Savings = Earnings – Expenditures

Explain how to calculate the earnings if you know the savings and the expenditures.

2 Use the graphs above to help you complete these tables for Fraser’s and Anita’s savings.

	Fraser's Savings				Anita's Savings			
	Grade 9	Grade 10	Grade 11	Grade 12	Grade 9	Grade 10	Grade 11	Grade 12
Savings								
Expenditures								
Earnings								

- 3 a) Who had the greater total earnings?
- b) Who had greater total savings?
- 4 What are two ways that Fraser could increase his total savings?

Costs: Sales and Discounts

One way to save money is to take advantage of special buying opportunities to purchase the things that you normally buy. Here are some examples:

- To advertise the opening of its new restaurant, *Tony's Pizzeria* offers pizzas at a discount of 40%. This means that *Tony's Pizzeria* takes 40% off the normal (*retail*) price.
- A flyer received in the mail offers a coupon that can be used to reduce the price of any CD at *CD Heaven Music Store* by \$5.00.
- The *Surround Sound Theatre* offers tickets at $\frac{2}{3}$ the normal price on Tuesdays.
- *Cool Fashions Clothing Store* advertises a clearance sale that offers a discount of 30% on all purchases.

- 1 Each of these circle graphs shows the sale price of an article and the discount as percents of the retail price. Estimate the percent discount in each case.



- 2 a) If the retail price of a pizza at *Tony's Pizzeria* is \$14.00, how much is saved by purchasing the pizza when the discount is offered?
- b) What is the discounted price?
- 3 Andrea uses the \$5 coupon to purchase a CD at *CD Heaven Music Store*. If the retail price of the CD is \$18.50, what percent of the retail price does she save by using the coupon?
- 4 a) What percent discount is the same as a discount of $\frac{1}{3}$?
- b) If the *Surround Sound Theatre* normally charges \$15 per ticket, how much is saved by attending the Theatre on Tuesday?
- c) What percent of the normal price is saved if two tickets are purchased?
- 5 a) What would be the sale price of a \$90 pair of boots at the *Cool Fashions Clothing Store*?
- b) How much did Marcia save at the *Cool Fashions Clothing Store* if she purchased a winter coat for \$70.98 at the clearance sale?
- 6 Andy owns a new winter coat that he likes to wear. He bought a second new coat at the *Cool Fashions Clothing Store* for \$81.89 because it was on sale. Do you think Andy made a smart purchase? Explain why or why not.



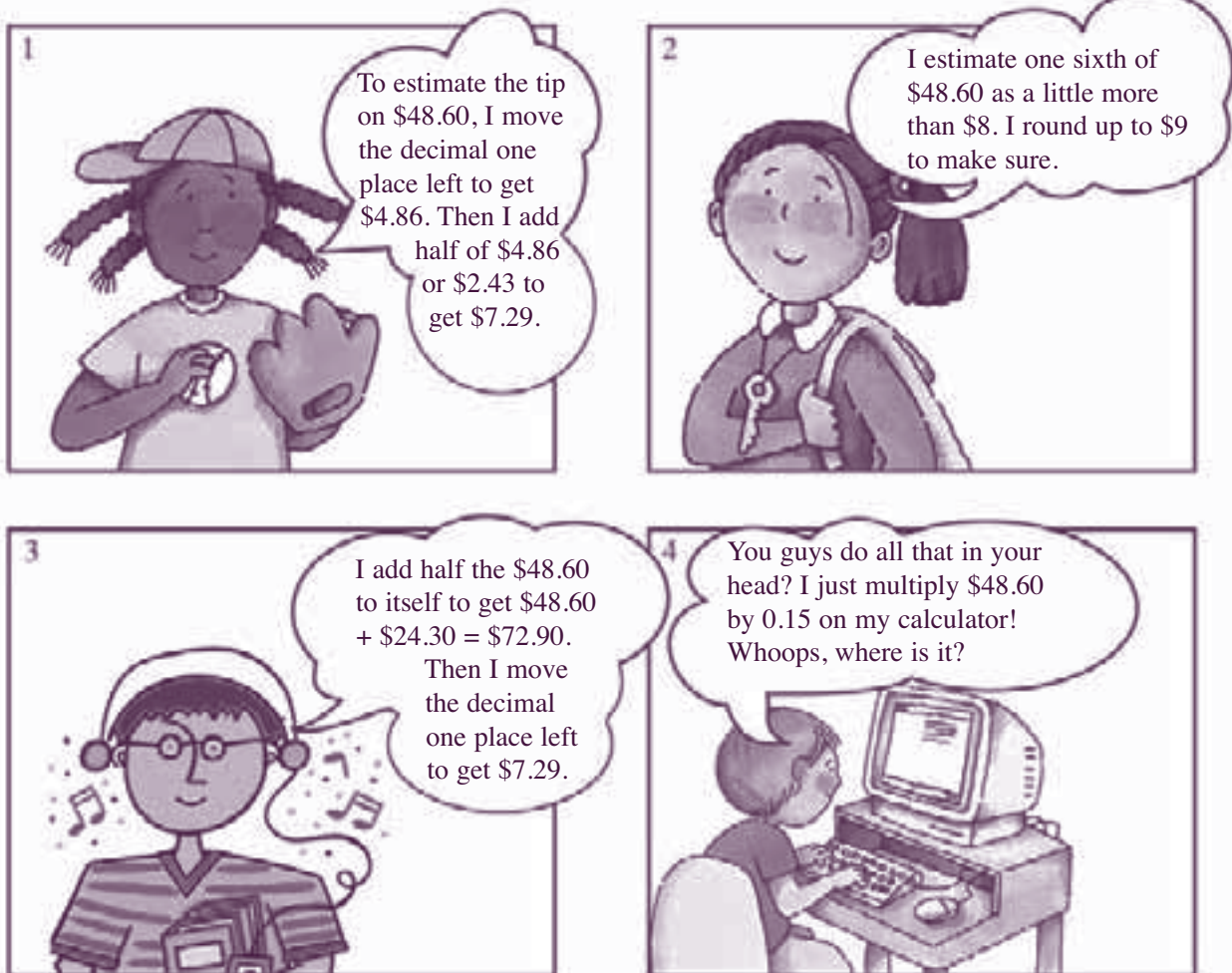
Investigation: Additional Costs: Taxes & Tips

In Canada, we have provincial and federal sales taxes that must be added to the cost of each purchase. The federal sales tax, called the *Goods and Services Tax* (GST), is 7% of the purchase price (in 2005).

The provincial tax, called the *Provincial Sales Tax* (PST), is different in different provinces. In Ontario, the PST is 8% (in 2005).

In the Atlantic provinces, the two taxes are combined into the *Harmonized Sales Tax* (HST). Whenever we make a purchase, we must pay an additional percent of the purchase price as a tax to the governments. The store where you make this purchase collects this tax from you and forwards it to the provincial and federal governments.

In addition to taxes, remember to include tipping for service when you are budgeting. For example, in all provinces, a reasonable tip for service at restaurants, to taxi drivers, or for pizza delivery, is usually 15%. That means that you have to estimate 15% of your bill to ensure that you have included enough of a tip. The illustrations below show how four students estimate 15% of \$48.60.



- 1 Would you use method 1, 2, 3 or 4 from the diagram to estimate a tip? Give reasons for your answer.
- 2 Estimate the total tip on these amounts:
 a) \$10 b) \$24 c) \$42.60 d) \$80.95 e) \$120.45
- 3 Did you use the same method of estimation for each in Exercise 2? Explain why or why not.
- 4 By what number would you multiply the amount of a bill to determine the total amount when the 15% tip is added?
- 5 Avery bought a bicycle on sale at a 20% discount. The retail price of the bicycle was \$129.99. The sales clerk added 15% tax to the retail price and then discounted the total by 20%.
 - a) What was Avery charged?
 - b) Avery asked that the tax be added to the discounted price instead of the full retail price. What is Avery now charged?
 - c) What is better for Avery, the first way or the second way? Explain.
 - d) If the GST was 6%, what would Avery be charged for the bicycle?
- 6 Make a spreadsheet like the one below. Enter the appropriate formulas to calculate the PST, GST and total purchase price plus tax for every purchase price between \$1 and \$100 in jumps of \$1.00. (Use the **Fill Down** command to fill in all the rows after row 3). If you live in a province that has HST, create formulas to determine the PST and GST separately.

	A	B	C	D
1	Purchase Price	GST	PST	Total Price
2	=1.00	=A2*0.07		
3	=A2 + 1	=A3*0.07		
4	=A3 + 1	=A4*0.07		
5	=A4 + 1	=A5*0.07		
6	=A5 + 1	=A6*0.07		

Use your spreadsheet to check the estimates you obtained in Exercise 2.

- 7 Look at the budget you prepared in Activity 5. Does the sales tax change the amount that you can save each year? Explain.